



Submitted by R. Bidlar, field man in charge of survey

signed R. Bidlar

COPY

DECEMBER 9, 1959.

63-1091

TO - Mr. K. A. DAVIS, *Vermont Mines Limited*
 SUITE 505, 80 RICHMOND ST. W.,
 TORONTO, ONTARIO.

FROM - RALPH POUTANEN,
 56 FARRAND ST.,
 PORT ARTHUR, ONTARIO.

SUBJECT - REPORT ON MAGNETOMETER SURVEY OF SHAKESPEARE GOLD
 PROPERTY, SHAKESPEARE TOWNSHIP, DISTRICT OF SUDBURY,
 ONTARIO.

INTRODUCTION: DURING THE PERIOD NOVEMBER 23 TO DECEMBER 1 A PACE AND COMPASS MAGNETOMETER SURVEY WAS CONDUCTED ON THE SHAKESPEARE PROPERTY. PARTIAL ELECTROMAGNETIC AND GEOLOGICAL SURVEYS WERE ALSO DONE.

PROPERTY AND LOCATIONS: THE CLAIMS EXAMINED ARE LISTED AS FOLLOWS:

SHAKESPEARE TOWNSHIP

S-110445
S-110507
S-110489
S-110490

*held by Vermont Mines Ltd
 Suite 505,
 80 Richmond St. W.,
 Toronto*

THE CLAIM S-110445 CONTAINING THE OLD SHAKESPEARE MINE WORKINGS IS LOCATED IN THE NORTH-EAST QUARTER OF THE NORTH HALF OF LOT 5, RANGE 1, IN SHAKESPEARE TOWNSHIP.

THE PROPERTY IS LOCATED ABOUT ONE AND A HALF MILES NORTH OF THE VILLAGE OF WEBBWOOD, WHICH IS ON HIGHWAY 17 SOME 60 MILES WEST OF SUDBURY, ONTARIO.

THE PROPERTY IS EASILY REACHED BY GOOD GRAVEL ROAD FROM WEBBWOOD.

HISTORY OF PROPERTY: THE HISTORY OF THE MINE GOES BACK TO 1903 WHEN IT WAS OPERATED FOR A PERIOD OF TIME TO 1907. A SHAFT WAS SUNK FROM THE TOP OF A HIGH RIDGE TO A DEPTH OF 300 FEET (ALSO REPORTED AS 340 FEET) AND SIX LEVELS ESTABLISHED AT 50' INTERVALS. A SECOND SHAFT 40' EAST OF THE MAIN SHAFT IS REPORTED TO CONNECT WITH IT UNDERGROUND. AN ADIT FROM THE SOUTH-EAST SIDE OF THE RIDGE CONNECTED WITH THE SHAFT AT THE FIRST LEVEL. MILLING WAS CARRIED OUT WITH A SMALL STAMP MILL. THERE ARE REPORTS THAT ABOUT 7,000 TONS OF ORE WERE MILLED WITH AN AVERAGE GRADE OF 0.30 OZ. PER TON.

IN 1936, THE MINE WAS DEWATERED BY ENSIGN GOLD MINES LIMITED. THIS COMPANY SURVEYED AND SAMPLED THE UNDERGROUND WORKINGS BUT DID NOT DO ANY MINING.

DURING 1944 AND 1945 THE PROPERTY WAS LEASED TO MR. N. ORECK. FROM A LIMITED AREA NEAR THE SHAFT ON THE FIRST LEVEL ORECK HANDCOBBED AND SHIPPED AS FOLLOWS:

1944 - 4.15 TONS ASSAYING 22.05 OZ. GOLD/TON
 1945 - 4.92 TONS " 29.905 OZ. GOLD/TON

IN 1950 THE PROPERTY WAS ACQUIRED BY GREENRAY MINES. THE ADIT ON THE NORTH SIDE OF THE HILL WAS EXTENDED TO CONNECT WITH THE SHAFT AT THE THIRD LEVEL. A LIMITED AMOUNT OF DIAMOND DRILLING AND SAMPLING WAS DONE AND A BULK SAMPLE OF 1.36 TONS WAS SHIPPED TO PERRON GOLD MINES WHICH AVERAGED 10.06 OZ. PER TON GOLD. NO FURTHER WORK WAS DONE.

A RECENT VISIT TO THE PROPERTY DISCLOSED THAT THE SURFACE BULKHEAD OF THE MAIN SHAFT HAD BEEN REMOVED AND INDICATIONS ARE THAT SOME HIGH GRADING WAS DONE FROM THE FIRST LEVEL. THE UNDERGROUND WORKINGS ARE PRESENTLY BLOCKED OFF AT THE SHAFT FROM BOTH THE FIRST AND THIRD LEVEL ADITS.

GEOLGY: THE GEOLOGY OF THE AREA AND PROPERTY IS COVERED BY E. S. MOORE IN THE D.D.M. REPORT 38, 1929, AND REFERENCE IS ALSO MADE TO A REPORT FOR ENSIGN GOLD MINES BY COLIN A. CAMPBELL IN 1936 AND FOR GREENRAY MINES BY H. R. KEMPTHORNE IN 1950.

THE MURRAY FAULT WHICH EXTENDS FROM SUDBURY TO SAULT STE. MARIE PASSES THROUGH THE NORTHERN PART OF THE TOWNSHIP AND JUST TO THE NORTH OF THE PROPERTY.

A HIGH RIDGE OF GRANITE LIES TO THE NORTH OF THE PROPERTY. SOUTH OF THIS, AND PASSING THROUGH THE PROPERTY, IS ANOTHER NORTH-EAST SOUTH-WEST STRIKING RIDGE WHICH IS MADE UP PRINCIPALLY OF BANDED QUARTZITES AND GREYWACKE, SOME OF WHICH HAS BEEN ALTERED. TWO SMALL BASIC DYKES CUT THE QUARTZITE AND CROSS FRACTURING OR SMALL FAULTS ARE ALSO INDICATED.

FOLDING IS EVIDENT IN PLACES AND NEAR THE CENTRE OF THE RIDGE THE QUARTZITES ARE REPLACED BY QUARTZ STRINGERS. IT IS IN THIS AREA THAT GOLD VALUES ARE FOUND.

A RIDGE OF DIABASE LIES TO THE SOUTH OF THE SHOWING. THE CONTACT OF THIS DIABASE AND THE QUARTZITE GREYWACKE IS HIDDEN BY A DRIFT COVERED VALLEY.

LOCAL GEOLOGY: WINTER CONDITIONS DISCOURAGED ANY DETAILED GEOLOGICAL WORK AND ONLY BARE ROCK OUTCROPS WERE MAPPED.

THE PRINCIPAL GEOLOGICAL FEATURE OF THE PROPERTY IS A WIDE ZONE OF QUARTZITE WHICH IS HOST ROCK TO THE GOLD ORE FOUND IN THE OLD MINE WORKINGS. IT STRIKES 50° (ALL AZIMUTHS ARE MAGNETIC) TO THE NORTH-EAST AND HAS A VERTICAL DIP, GENERALLY. THE QUARTZITE IS LIGHT GREY-WHITE AND SILICEOUS WITH FAIR AMOUNTS OF FELDSPAR. IT IS WELL BANDED AND THE BANDS USUALLY SHOW SOME CONTORTION FROM FOLDING. THE NORTH CONTACT OF THIS ZONE WAS NOT LOCATED DUE TO LACK OF OUTCROP.

A LARGE ZONE OF GABBRO INTRUDED IMMEDIATELY SOUTH OF THE QUARTZITE. IT IS GENERALLY A DARK GREEN, MEDIUM TO COARSE GRAINED ROCK BUT GRADES OCCASIONALLY CLOSE TO A DIORITE AND A QUARTZ DIORITE. IT HAS BEEN ALTERED LOCALLY TO HIGH SCHIST AND A GARNETIFEROUS SCHIST.

THE QUARTZ-GABBRO CONTACT WHICH OCCURS IN THE MINE AREA WAS SEEN ONLY IN THE AVON TUNNEL IN CLAIM 110490. THE GABBRO NEAR THE CONTACT WAS CHILLED AND SLIGHTLY ALTERED. A THREE FOOT WIDE SLIGHTLY RUSTY SHEAR ZONE (ST: 55°, DJP 85°S) FORMED THE CONTACT ZONE. THE EXTENSION OF THIS CONTACT WAS FAIRLY WELL LOCATED THROUGH OUTCROP EXAMINATION.

QUARTZITE WAS ALSO FOUND ALONG THE SOUTH SHORE OF THE LAKE ON THE PROPERTY. IT IS SIMILAR TO THE NORTHERN ZONE OF QUARTZITE BUT DIFFERS IN STRIKE AND DIP. STRIKE AVERAGES ABOUT 75° AZIMUTH AND DIP IS APPROXIMATELY 75° TO THE SOUTH.

MINERALIZATION: VERY MINOR TRACES OF PYRITE WERE SEEN IN THE NORTHERN ZONE OF THE QUARTZITE. SEVERAL SPECKS OF COVELLITE WERE ALSO SEEN. THE GABBRO COMMONLY SHOWED TRACES OF PYRITE AND MINOR TRACES OF CHALCOPYRITE WERE SEEN IN TWO LOCATIONS.

THE MAGNETOMETER SURVEY: A SHARPE MODEL A2 MAGNETOMETER WAS USED IN THE SURVEY. CALIBRATION OF THE MAGNETOMETER GAVE A SCALE CONSTANT OF 22.2 GAMMAS PER SCALE DIVISION. FOR SIMPLIFICATION IN THE MAGNETOMETER CALCULATIONS A SCALE CONSTANT OF 20 GAMMAS WAS USED. TWO READINGS WERE TAKEN AT EACH STATION AND THESE WERE ASSAYED TO THE CLOSEST HALF SCALE DIVISION.

THE SURVEY WAS RUN ON PACE AND COMPASS TRAVERSES FROM CHAINED PICKET LINES. READINGS WERE TAKEN AT 100 FOOT INTERVALS ON EACH TRAVERSE.

SURVEY INTERPRETATION: THE SURVEY FAILED TO DEFINE ANY DEFINITE GEOLOGICAL CONTACTS. A LARGE ZONE WITH A MAGNETIC CONTRAST OF 70 GAMMAS OVER BACKGROUND WAS LOCATED NORTH OF THE NORTH BASELINE. THIS ZONE MAY INDICATE A CHANGE IN GEOLOGY ESPECIALLY TO A MORE BASIC ROCK. MAGNETIC INTENSITY GENERALLY INCREASES AS A ROCK BECOMES MORE BASIC. THIS AREA WAS COVERED WITH DEEP OVERBURDEN AND NO OUTCROP WAS SEEN.

A POSSIBLE FAULT ZONE WAS INDICATED AT THE WESTERN END OF THE LAKE ON THE PROPERTY. THIS ZONE (ANOMALY H) STRIKES AT RIGHT ANGLES TO THE GENERAL STRIKE OF THE AREA. IT IS ON AND PARALLEL TO A BAY ON THE LAKE AND HAS A CONTRAST OF 200 GAMMAS OVER BACKGROUND. NO GEOLOGICAL EVIDENCE OF A FAULT WAS SEEN. FURTHER WORK UNDER SUMMER CONDITIONS IS NECESSARY TO PROVE THIS ZONE OF HIGHER MAGNETIC INTENSITY TO BE A FAULT.

NUMEROUS OTHER ANOMALOUS AREAS WERE FOUND ALL OF WHICH PARALLEL THE GENERAL ROCK STRIKE OF THE AREA.

DESCRIPTION OF ANOMALIES: AVERAGE MAGNETIC BACKGROUND FOR THE AREA APPEARS TO BE ABOUT 550 GAMMAS. THE ANOMALIES FOUND DURING THE SURVEY ARE WEAK ONES GENERALLY SHOWING LITTLE CONTRAST AGAINST THE BACKGROUND. MINERALS USUALLY CAUSING MAGNETIC ANOMALIES ARE PYRROTITE AND MAGNETITE. PYRROTITE HAS BEEN REPORTED SEEN IN THE QUARTZITE IN THE MINE AREA BUT NO RELATION BETWEEN THE GOLD ORE AND PYRROTITE HAS EVER BEEN ESTABLISHED. MAGNETITE IS COMMONLY FOUND IN GABBRO, A ROCK TYPE WHICH COVERS MOST OF THE PROPERTY. MAGNETITE OR PYRROTITE MINERALIZATION WAS NOT SEEN DURING THE SURVEY.

ANOMALY A - AN ANOMALY HAVING A WEAK CONTRAST OF APPROXIMATELY 150 GAMMAS OVER AN UNDETERMINED LENGTH. IT COULD BE CAUSED BY A BASIC ROCK TYPE. OVERBURDEN APPEARS DEEP HERE AND NO OUTCROP WAS SEEN.

ANOMALY B - A SMALL LOCAL ANOMALY WITH A CONTRAST OF 400 GAMMAS. IT IS LOCATED NEAR THE SITE OF AN OLD GOLD MILL AND ITS CAUSE MAY BE DUE TO MAGNETIC MATERIAL IN THE OVERBURDEN.

ANOMALY C - A VERY WEAK ANOMALY WHICH COINCIDES WITH THE UNDERGROUND WORKINGS OF THE MINE. IT IS 100 FEET WIDE AND 800 FEET LONG WITH A CONTRAST OF 50 GAMMAS OVER AVERAGE BACKGROUND. THIS ANOMALY INDICATES THAT THERE MAY BE A CONNECTION BETWEEN THE GOLD BEARING ROCK AND MAGNETIC INTENSITY. THE MAGNETIC CONTRAST IN THIS CASE IS VERY WEAK.

ANOMALY D - THIS ANOMALY LIES ON THE MAIN QUARTZITE-GABBRO CONTACT FOUND NEAR THE OLD MINE WORKINGS. IT WAS TRACED FOR 800 FEET AND IS STILL OPEN TO THE EAST. AVERAGE CONTRAST IS ABOUT 150 GAMMAS ALTHOUGH SEVERAL HIGHS HAVE A CONTRAST OF 250 GAMMAS. OUTCROP SEEN NEAR THIS ANOMALY DID NOT CONTAIN ANY MAGNETIC MINERALIZATION. THE AVON TUNNEL CUTS PART OF THIS ANOMALY AND MINERALIZATION OF MAGNETIC NATURE WAS NOT SEEN IN THE TUNNEL. THIS TUNNEL EXTENDS 50 FEET BEYOND THE QUARTZITE-GABBRO CONTACT.

ANOMALY E - ANOMALY E HAS A CONTRAST OF 250 GAMMAS OVER THE MAGNETIC BACKGROUND. IT HAS A WIDTH OF ABOUT 100' OVER A STRIKE LENGTH OF APPROXIMATELY 500 FEET. A SHEARED AND ALTERED, SLIGHTLY RUSTY, OUTCROP OF QUARTZITE WAS FOUND NEARBY. NO PYRROTITE OR MAGNETITE WAS EVIDENT.

ANOMALY F - A SMALL SHARP ANOMALY WITH A CONTRAST OF 600 GAMMAS. SEVERAL OUTCROPS OF NON-MINERALIZED GABBRO WERE SEEN NEARBY.

ANOMALY G - ANOMALY G IS A WEAK ANOMALY HAVING A CONTRAST OF 200 GAMMAS OVER BACKGROUND. THREE OUTCROPS OF GABBRO WERE FOUND IN THE VICINITY OF THE ANOMALY, ONE OF THESE OUTCROPS CARRYING TRACES OF CHALCO-PYRITE.

ANOMALY H - THIS LARGE BUT WEAK ANOMALY IS LOCATED AT THE WEST END OF THE LAKE TO THE SOUTH OF THE PROPERTY. IT HAS A CONTRAST OF 200 GAMMAS OVER MAGNETIC BACKGROUND AND STRIKES AT RIGHT ANGLES TO THE AVERAGE ROCK STRIKE ON THE PROPERTY. THIS STRIKE, PLUS THE FACT THAT THE ANOMALY ROUGHLY PARALLELS A LONG BAY IN THE LAKE, SUGGESTS THE POSSIBILITY OF A FAULT ZONE. NO OTHER EVIDENCE OF FAULTING WAS SEEN. AN ELECTROMAGNETIC SURVEY OF THIS ANOMALY DID NOT DISCLOSE ANY CONDUCTIVE AREAS.

ELECTROMAGNETIC SURVEY: A SHARPE MODEL SE100 ELECTROMAGNETIC SURVEY UNIT WAS USED TO SURVEY THE LAKE SURFACE ONLY. NO EFFORT WAS MADE TO RECORD RECEIVER READINGS. READINGS WERE CONSISTENTLY FLAT AND GAVE NO INDICATIONS OF CONDUCTIVE ZONES. SPECIAL EFFORT WAS MADE TO TEST MAGNETIC ANOMALY H AT THE WEST END OF THE LAKE. THE LOCATION OF ALL TRANSMITTER STATIONS IS MARKED ON THE MAP OF THE MAGNETOMETER SURVEY.

CONCLUSIONS: THE WEAK MAGNETIC ANOMALY C WHICH COINCIDES WITH THE UNDERGROUND WORKINGS OF THE SHAKESPEARE MINE INDICATES THAT THERE MAY BE SOME CONNECTION BETWEEN THE GOLD BEARING QUARTZ AND MAGNETIC INTENSITY. ANOMALY E WHICH OCCURS IN THE BAY ZONE OF QUARTZITE SHOULD BE INVESTIGATED FURTHER.

ANOMALY D, WHICH OCCURS ON THE QUARTZITE-GABBRO CONTACT, ALSO WARRANTS FURTHER WORK UNDER SUNNER CONDITIONS. OUTCROP WAS FOUND NEAR THIS ANOMALY BUT NO EXPLANATION FOR IT WAS SEEN.

A POSSIBLE FAULT INDICATED BY ANOMALY H SHOULD BE PROSPECTED IN DETAIL. A FAULT ZONE WOULD BE A LIKELY HOST TO GOLD ORE.

THE REMAINING ANOMALIES (WITH THE EXCEPTION OF ANOMALY A) COULD BE INVESTIGATED QUICKLY AND CHEAPLY AS OUTCROP APPEARS PLENTIFUL.

WORK REPORT:

	<u>LINE CUTTING</u>	<u>MAGNETOMETER SURVEY</u>	<u>ELECTROMAGNETIC SURVEY</u>	<u>MAP & REPORT</u>
R. POUTANEN	1 1/2 DAYS	4 1/2 DAYS	1 DAY	2 DAYS
R. NORLAND	1 1/2 "	4 1/2 "	1 "	

Work Done

R. Poutanen 430 days at Port Arthur Nov 23 to Dec 1/59
R. Norland 315 days at Port Arthur Nov 23 to Dec 1/59

Total Assessment Work Credit = 16 x 24 = 364 days (applied to claims 110495, 110506, 110477, 90)

Dec 10/1960

I, Ralph Pentanen, of 430 Queen St, Port Arthur, Ont.,
herby submit:

1. That I have completed my senior matriculation and a following 2 year technical mining course at the Lakehead Technical Inst (1954).
2. That I have had six years experience in mining exploration mostly concerned with field work in magnetometer and electromagnetic surveying, geological mapping, core logging and the like.
3. That I am on the payroll of Lechering Metal Mines Limited but was employed by Vermont Mines Limited for the duration of the work on the Shakespeare Property.
4. That references can be obtained from the mining consulting firm of Hallet, Broadhurst and Ogden, 120 Eglinton W., Toronto.

Respectfully submitted
Ralph Pentanen.

Agnew

(Spanish River)

THE TOWNSHIP
OF

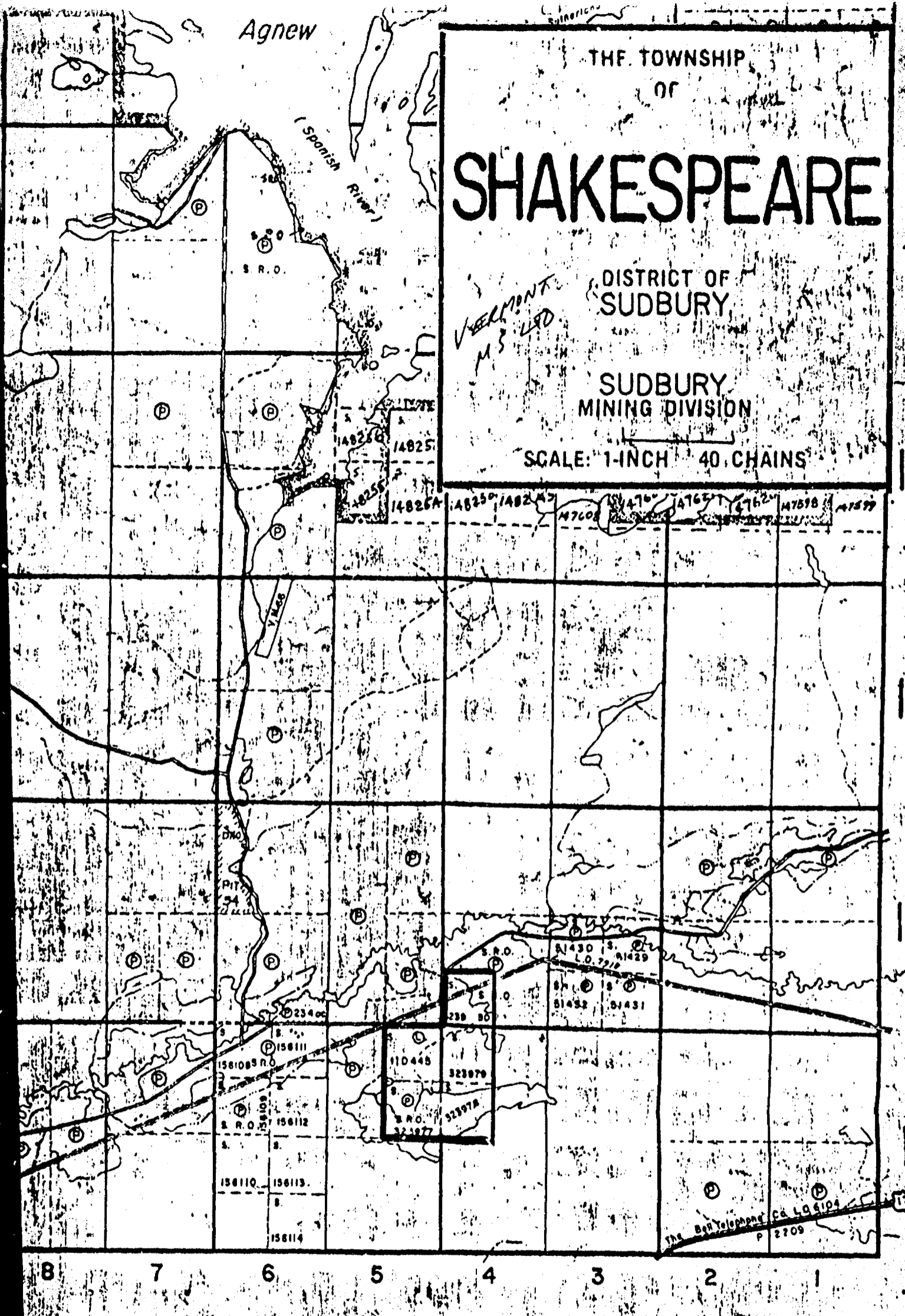
SHAKESPEARE

DISTRICT OF
SUDBURY

SUDBURY
MINING DIVISION

*VERMONT
M.S. LTD.*

SCALE: 1-INCH = 40 CHAINS



Hallam Twp. (M. 909)

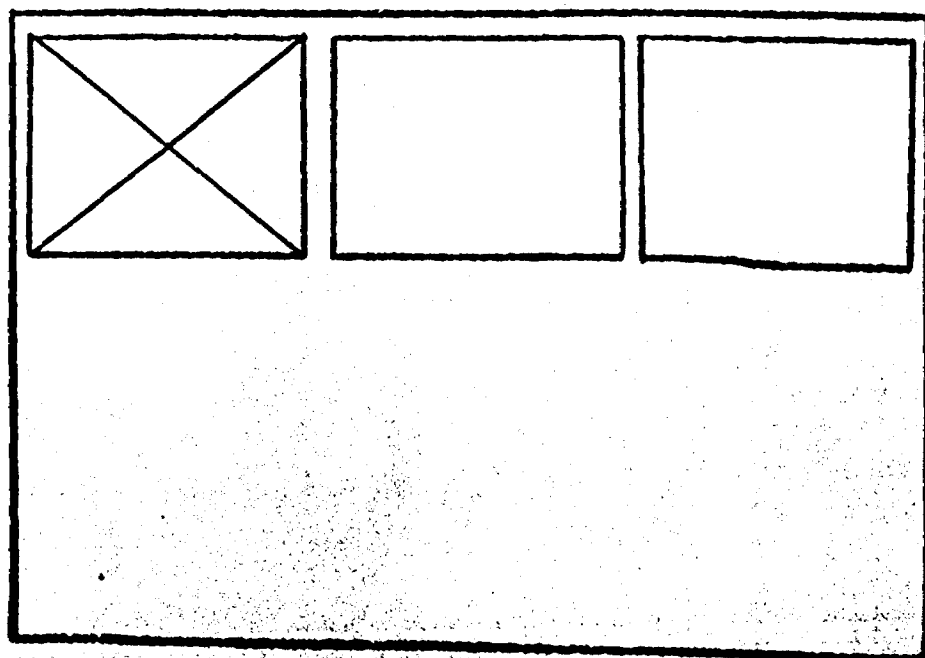


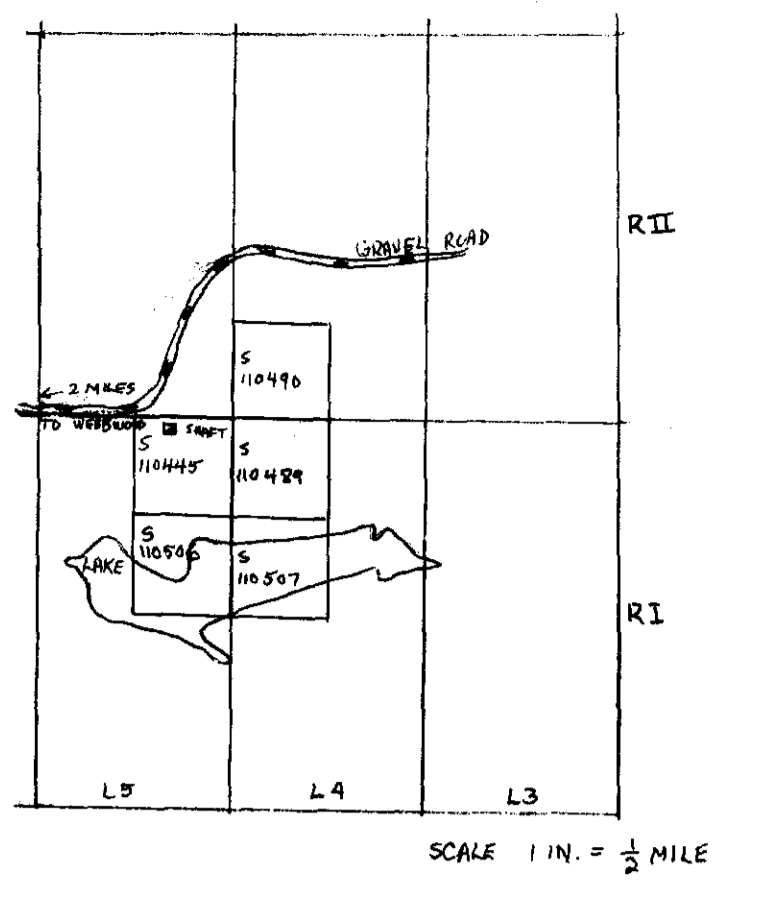
411055W0101 0022A1 SHAKESPEARE

900

SEE ACCOMPANYING
MAP(S) IDENTIFIED AS
SHAKESPEARE-0022-A1#1

LOCATED IN THE MAP
CHANNEL IN THE FOLLOWING
SEQUENCE (X)





LEGEND

- | | | | |
|----------------------------|--|---------------------------------------|--|
| UNDER 600 GAMMAS | | STRIKE AND DIP OF VERTICAL SHEARING | |
| 600 - 700 GAMMAS | | OUTCROP | |
| OVER 700 GAMMAS | | CLAIM POST | |
| STRIKE AND DIP OF BEDDING | | SLOPE | |
| STRIKE OF VERTICAL BEDDING | | ELECTRO-MAGNETIC TRANSMITTING STATION | |
| STRIKE AND DIP OF SHEARING | | | |

MAGNETOMETER SURVEY
SHAKESPEARE
GOLD PROPERTY
SHAKESPEARE TOWNSHIP DISTRICT OF SUDBURY
ONTARIO
SCALE 1 IN. = 200 FT. R. POUTANEN
DECEMBER 1959



200

R. Poutanen
430
10/1/59

SHAKESPEARE-0022-A1, #1